02 April 2021

Karl Griffiths
Tay Van, Inc.
1803 Hilltop Drive
Redding, CA 96002

TENTATIVE DRAFT NOTICE OF APPLICABILITY

GENERAL ORDER FOR IN-SITU GROUNDWATER REMEDIATION AND DISCHARGE OF TREATED GROUNDWATER TO LAND, ORDER R5-2015-0012
TAY VAN CAR WASH SHASTA COUNTY

Tay Van, Inc. (Discharger) submitted a Notice of Intent (NOI), dated 23 February 2021, requesting coverage under Order R5-2015-0012, Waste Discharge Requirements General Order for In-situ Groundwater Remediation and Discharge of Treated Groundwater to Land (General Order). The NOI proposes in-situ chemical oxidation (ISCO) via injection of sodium persulfate (PersulfOx®) to oxidize petroleum hydrocarbons in groundwater at Tay Van Car Wash (Project). Based on information in the submittal, it is our determination that this project meets the required conditions for approval under Order R5-2015-0012. All requirements contained in the General Order are applicable to this Project. The Project is hereby assigned Order R5-2015-0012-XXXX.

A copy of the General Order is enclosed with this Notice of Applicability (NOA) and is also available at the Central Valley Regional Water Quality Control Board (Central Valley Water Board) Adopted Orders Website. (http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2015-0012.pdf)

PROJECT LOCATION

The Project is at 1803 Hilltop Drive, Redding, Shasta County as shown on Attachment A. The Project is approximately at latitude 40.580682 longitude -122.357186 on Assessor's Parcel Number 107-310-027-000.

PROJECT DESCRIPTION

In April 1999, the Discharger removed four underground storage tanks (USTs) from the Project site, which is an operating car wash. Soil samples collected beneath the USTs and from the sidewalls of the excavation indicated an unauthorized release of petroleum

hydrocarbons. The Site has undergone multiple soil removal actions. In May 1999, approximately 900 cubic yards of impacted soil were excavated in the vicinity of the former USTs. Approximately 1,000 cubic yards of impacted soil were over-excavated in April 2002. In January 2004, approximately 550 cubic yards of soil was excavated from an area west of the former USTs and in the vicinity of the former fuel islands.

Investigations identified petroleum-related contamination in soil and groundwater and encountered free phase hydrocarbons. Since 2001, 16 wells have been installed at the Site. In August 2007, the Discharger submitted a Remedial Action Work Plan (RAWP) which proposed using ISCO to treat high concentrations of methyl tert-butyl ether (MTBE) detected in groundwater. This remedy was not implemented due to the presence of free product.

The Discharger conducted dual phase extraction in 2014, removing a combined total of 17,010 gallons of water and an estimated 470 pounds of hydrocarbons from wells located onsite. Two additional site investigations were conducted in 2015 to delineate the presence of free product; these investigations included installation of three deep monitoring wells in June 2015 and 12 laser-induced fluorescence borings in December 2015. In September 2017, the Discharger submitted a revised RAWP proposing ISCO by injecting a water, sodium persulfate, and sodium hydroxide solution into 43 borings to reduce MTBE concentrations in onsite groundwater. After approval by Central Valley Water Board staff, the Discharger's consultant conducted ISCO in January and March 2018.

Routine groundwater monitoring resumed in 2019 and indicates elevated MTBE remains at depths approximately 35 to 50 feet below ground surface (bgs) in onsite and offsite wells. In January 2020, Central Valley Water Board staff directed the Discharger to evaluate the technical effectiveness of several remedial technologies that would be effective in reducing MTBE concentrations in wells MW-4 (onsite) and MW-9D (offsite). The selected remedial alternative is ISCO using PersulfOx®. The Discharger submitted a RAWP in September 2020 and a RAWP Addendum in January 2021. Central Valley Water Board staff concurred with the RAWP Addendum in March 2021.

Prior to conducting PersulfOx® injection, four injection wells will be installed to approximately 50 feet bgs with screened intervals between 35 and 50 feet bgs. Two of these injection wells (IW-1 and IW-2) will be upgradient of MW-4 and the other two injection wells (IW-3 and IW-4) will be upgradient of MW-9D.

Approximately 13,370 gallons of PersulfOx® with water will be injected in eight wells, including four existing shallow zone wells MW-1, MW-2, MW-3 and EX-2 and the four proposed deeper injection wells, during two separate events 30 days apart. A solution of 15 percent PersulfOx® and 85 percent water will be injected into the four shallow zone wells at a rate of approximately 55 gallons of solution (approximately 50 pounds of PersulfOx®) per vertical foot over the interval of 10 to 25 feet bgs. A solution of 10 percent PersulfOx® and 90 percent water will be injected into the four deeper zone injection wells at a rate of approximately 56 gallons of solution (approximately 50 pounds of PersulfOx®) per vertical foot over the interval of 35 to 50 feet bgs.

Monitoring and reporting during ISCO using PersulfOx® will be conducted in accordance with Monitoring and Reporting Program (MRP) R5-2015-0012-XXXX. Constituents of concern (COCs) include MTBE, benzene, toluene, ethylbenzene, total xylenes, total petroleum hydrocarbons as gasoline, sodium, sulfate, total dissolved solids, and chromium VI. COCs will be sampled and analyzed prior to injection, two weeks after the first injection, and after one month and three months post remediation. Groundwater parameters including groundwater elevation, free product presence/absence, oxidation reduction potential, electrical conductivity, dissolved oxygen, pH and temperature will be assessed in monitoring wells prior to PersulfOx® injection. Subsequently, these parameters will be sampled and analyzed after one month and three months post-remediation.

Under MRP R5-2015-0012-XXX, data shall be reported electronically to the California State Water Resources Control Board's GeoTracker Database (https://geotracker.waterboards.ca.gov/).

GENERAL INFORMATION AND SITE-SPECIFIC REQUIREMENTS

1. The Project will be operated in accordance with the requirements contained in the General Order and in accordance with the information submitted in the NOI and as specified in this NOA.

2. The required annual fee (as specified in the annual billing you will receive from the State Water Resources Control Board) shall be submitted until this NOA is officially revoked.

3. In-situ discharge of materials other than PersulfOx® as described in the NOI into the subsurface is prohibited.

4. Failure to abide by the conditions of the General Order could result in an enforcement action as authorized by provisions of the California Water Code.

5. Tay Van Car Wash and their agents shall comply with the attached MRP R5-2015-0012-XXXX and any revisions thereto as ordered by the Executive Officer.

DOCUMENT SUBMITTALS

All monitoring reports should be converted to a searchable portable document format (PDF) and submitted electronically to the California State Water Resources Control Boards' GeoTracker Database (https://geotracker.waterboards.ca.gov/). Additional information regarding electronic submittals is accessible through the information tab on the GeoTracker homepage.

After uploading a document via GeoTracker, the submitting party shall notify Central Valley Water Board staff via email at: centralvalleyredding@waterboards.ca.gov, including the following in the body of the email:

Facility Name:	Tay Van Car Wash
Program:	Groundwater Unit
Order:	R5-2015-0012-XXXX
CIWQS Place ID:	832762

Melissa Buciak is your point of contact for any questions regarding compliance with the Order. You may contact Patrick at (530) 224-4854 or at Melissa.Buciak@waterboards.ca.gov.

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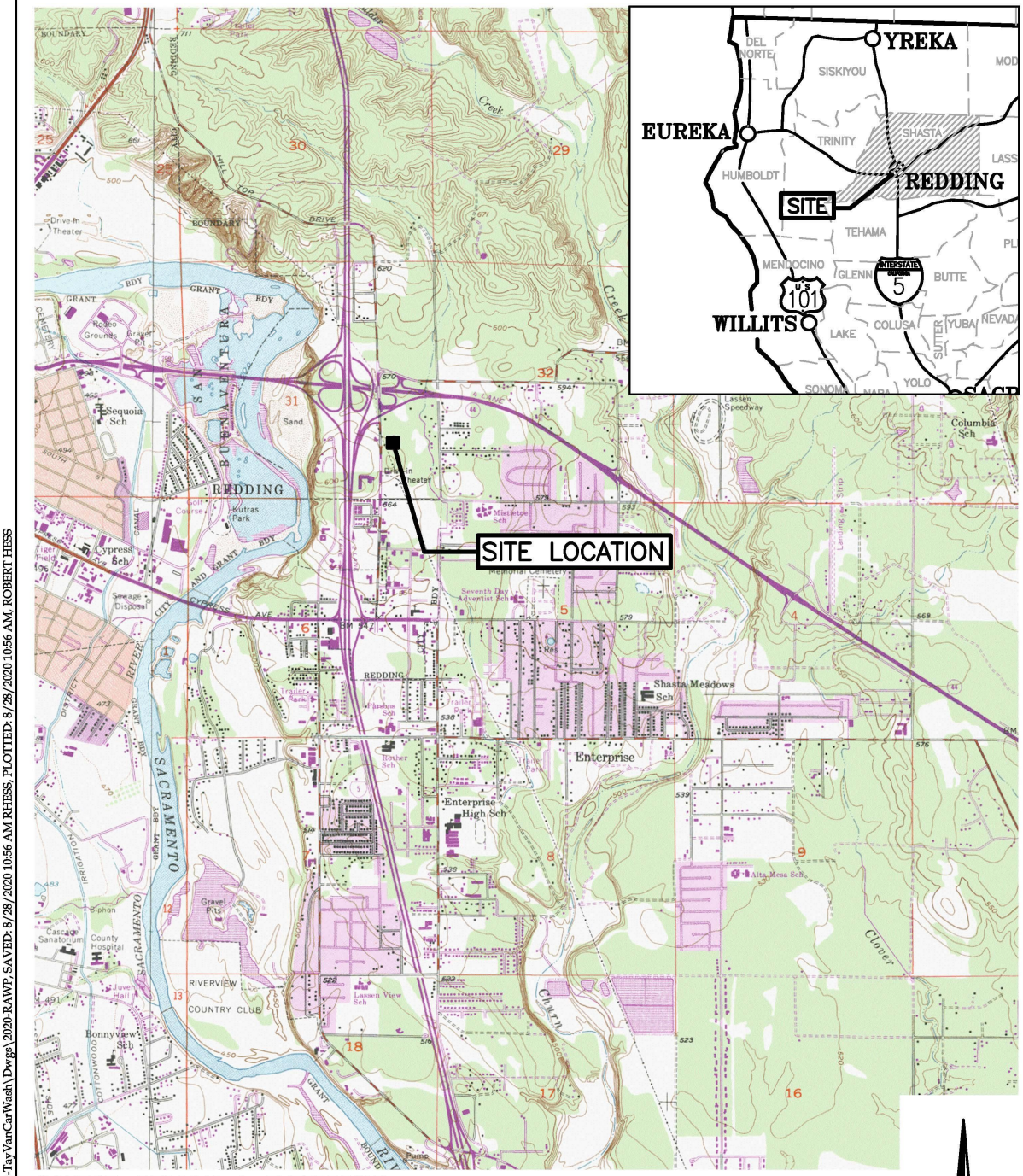
Patrick Pulupa,
Executive Officer

Attachments:
Attachment A – Site Location Map
Attachment B – Site Plan Showing Treatment Zones and Well and Locations
Attachment C – MRP R5-2015-0012-XXX
Attachment D – Order R5-2015-0012

cc via email w/encls.:
Kevin Westlake, Shasta Co. Environmental Health Division, Redding
Bob Hess, SHN Engineers & Geologists, Shasta Lake
Steve Meeks, Central Valley Water Board, Rancho Cordova

ATTACHMENT A
SITE LOCATION MAP



Tay Van Car Wash 1803 Hilltop Drive Redding, California		Site Location Map SHN 506018
August 2019	506018-LOCATION	Figure 1

\\REDDING2019\Projects\2006\506018-TayVanCarWash\Dwgs\2020-RAWP, SAVED: 8/28/2020 10:56 AM RHESS, PLOTTED: 8/28/2020 10:56 AM, ROBERT HESS

ATTACHMENT B
SITE PLAN SHOWINGTREATMENT ZONES AND WELL LOCATIONS